Installation Instructions

SAS® System Viewer 9.1
for Windows

The SAS System Viewer is a freely distributed application for viewing and printing files that were created by SAS. The Viewer provides a quick and convenient way to view SAS datasets, catalogs, transports, JMP files, HTML files, and all text-based files without invoking SAS, or even having SAS installed on your computer.

When you install the SAS System Viewer, the setup procedure automatically updates the Windows registry to associate the Viewer program with some specific SAS files. You can double-click the left-mouse button (or click on the right-mouse button from an Explorer view and select SASView) to launch the SAS System Viewer with the selected file(s) loaded for viewing or printing. Please note that this list does include all file formats supported by the SAS System Viewer. You should review the section **Files Supported by the SAS System Viewer** below for a more detailed list of files supported by this release of the SAS System Viewer.

The SAS System Viewer provides enhanced printing capabilities for files generated by the SAS System. Simply click the right-mouse button on any of the previously mentioned files and select Print from the context menu. The file automatically prints, using the predefined options set in the SAS System Viewer. To redefine the printed output generated by the Viewer, simply run the Viewer and customize the page setup settings. Your new settings will be saved to the registry for the next time you print a file using the SAS System Viewer. Optionally, you may use the mouse to drag a file onto a printer icon located on your desktop. This action will behave in the same way as choosing print from the context menu.

The Viewer provides a row-fetching option to allow a smaller window of data to be displayed at one time. This option provides more resources for other applications and dramatically speeds the viewing process of SAS generated files when a small range of observations are retrieved from the file.

The SAS System Viewer now natively supports list and log output file formats, including correctly viewing and printing the output files. The Viewer supports viewing and printing files that contain pagination and legacy line printer output.

Additional features are outlined in SAS System Viewer Help section titled **Features of the SAS System Viewer**. Please review this section for a more detailed list of features included in this release of the SAS System Viewer.

Files supported by the SAS System Viewer

Read Only

- 6.04 - MS Windows version 7.00 Datasets (sasb7dat, sd7, sd2, ssd, ssd0x, saseb$data)
- 6.06 - 6.12 Catalogs - Directory Information Only (sc2, sct, sct0x, saseb$catalog)
- 3.2.2 JMP Data Sets - Macintosh and Windows (jmp)
- SAS Transport Files (stx, xpt)
- SAS Log Files (lst)
- SAS List Files (log)

Read and Write Enabled

- Comma Delimited Files (csv)
- Space Delimited Files (prn)
- Text Based Files {sas, dat, cfg, html}

Note: *SAS datasets, generated by Release 6.04 and later of the SAS System for Windows, OS/2, or DOS, can be up to 2 gigabytes in size. Datasets can be compressed, encrypted, indexed, or audited. Note that only datasets compressed by using the COMPRESS=YES or COMPRESS=CHAR dataset options (i.e., RLE algorithm) are supported. Datasets compressed by using the COMPRESS=BINARY dataset option (i.e., RDC algorithm) are not supported. Also note that the auxiliary files created to support indexing (i.e., .sas7bndx or .si2) or auditing (i.e., .sas7baud) cannot be opened by the viewer.*

Cross-platform Access

V6 data can be accessed via HTTP and FTP network protocols.

Note: *The SAS System Viewer cannot open SAS files created under the Digital UNIX platform.*

Version 6.12 and Version 7 Cross-platform Files Supported

- HP-UX
- INTEL ABI
- IBM AIX for RS/6000
- MIPS ABI
- Solaris 2
- OS/2
- Microsoft Windows 95 and 98
- Microsoft Windows NT (Intel versions)
- Open VMS Alpha

Version 6.12 Only Cross-platform Files Supported

- Macintosh 68K
- PowerPC for Mac OS
- Data General UNIX
- Open VMS VAX
- SunOS 4

Version 7 Cross-platform NOT Supported

- Digital UNIX (also not supported for V6 file types)
- OpenVMS VAX
- OSF Alpha
- MVS
- CMS

System Requirements

Software Requirements
Operating System

The SAS System Viewer may be used on the following operating systems:

- Windows 98/98SE with Service Pack 1.0 (*Note: SP1 of the Windows 98 release is also referred to as Windows 98, Second Edition.*)
- Windows Me
- Windows NT 4.0 with Service Pack 4
- Windows 2000 with Service Pack 1
- Windows XP

Web Browser

 In order to view HTML pages in the viewer, Internet Explorer 4.0 or higher must be installed.

Hardware Requirements

Machines Supported

Intel or Intel-compatible Pentium or Pentium II/III 133 MHz or higher (recommended)

Memory Requirements

4 MB minimum used by the SAS System Viewer (plus the size of the data being viewed for all other operations.)

Hard Disk Requirements

The SAS System Viewer requires 4.5 MB of disk space.

Running the SAS System Viewer from the Command Line

The SAS System Viewer can also be launched standalone from a DOS shell command prompt. The SAS System Viewer command line syntax is:

```
SV [SAS file [/p]]
```

OR

```
sv [SAS file [/pt printer name]]
```

where:

    SAS file is the name of a supported SAS data set (`.sd2`) or SAS catalog (`.sc2`) file. *SAS file* can also be any valid PC (Windows or OS/2), UNIX, Macintosh, or OpenVMS SAS dataset or catalog name on a local or server disk, or can be a network protocol name such as:

    `ftp://`[*username*[`:`*password*]`@`]*host*[`.`*domain.net*][`:`*port*]`/`*path*

    `http://`*host*[`.`*domain.net*][`:`*port*]`/`*path*

    See **Viewing SAS Files Accessed Using HTTP and FTP** in the SAS System Viewer Help for more information.

    `/p` prints the *file* to the default printer.

    `/pt` *printer name* prints *SAS file* to the specific printer named by *printer name*. The available printer names for your system can be found by looking in the Printers folder, accessed from the **Start** menu in the Settings item. Use quotes around a printer name that contains spaces or special characters.

    `/Unregister` or `/Unregserver` unregisters the Viewer and file types supported by the Viewer. This option effectively cleans the registry of any changes made by the SAS System Viewer. This option is called by the Viewer Uninstall Program.

Note: *Before you can access files created by non-PC versions of the SAS System, or any SAS file across a network using FTP or HTTP, you must have the SAS System for Windows installed on your local machine with SAS/CONNECT.*

Examples

- `SV options.sd2`
  Opens the local SAS data set named `OPTIONS`.

- `SV options.sd2 /p`
  Prints the local SAS data set named `OPTIONS` on the default printer.

- `SV options.sd2 /pt "HP LaserJet IVsi"`
  Prints the local SAS data set named `OPTIONS` on the printer named *HP LaserJet IVsi*

- `SV ftp://norman.ftp.sas.com/options.ssd01`
  Opens the UNIX data set `options.ssd01` residing on `norman.unx.sas.com` after prompting for a valid user name and password.

- `SV ftp://anonymous:guest@ftp.big.org//pub/sas/data/dataset.ssd01`
  Opens the UNIX data set `/pub/sas/data/dataset.ssd01` residing on `ftp.big.org` after logging in as *anonymous*.

- `SV http://www.big.org/~JimP/options.ssd01`
  Opens the UNIX data set `options.ssd01` residing in the `public_html` subdirectory belonging to user JimP (assuming that the HTTP server is configured to search the `public_html` subdirectory for content when accessed using a URL).

Using the Simple Query Language

A query is a string expression that generally conforms to the standard orders of precedence for mathematical and Boolean expressions. The expression uses in-fix notation, with parenthesis being used to change the order of precedence for expression evaluation. Identifiers and function names may be used, as well as character string and numeric constants. Functions are always identified by an argument list enclosed in parenthesis and separated by commas. Functions, which require no arguments, must still have an empty set of parentheses.

The operands that can be used in an expression include:

`x + y`	Adds two values.
`x - y`	Subtracts y from x.
`x * y`	Multiplies two values.
`x / y`	Divides x by y.
`x < y`	Relational comparison of x being less than y.
`x <= y`	Relational comparison of x being less than or equal to y.
`x > y`	Relational comparison of x being greater than y.
`x >= y`	Relational comparison of x being greater than or equal to y.
`x = y`	Relational comparison of x being equal to y.

`x <> y`
`x != y`
`x ^= y`
	Relational comparison of x being not equal to y.

`!x` `not x`	Boolean negation of x. If x is non-zero, then result is zero. If x is zero, result is non-zero.
`X and y` `x & y`	Boolean multiplication. If both x and y are non-zero, then result is non-zero. Otherwise, result is zero.
`x or y` `x	y`	Boolean addition. If either x or y is non-zero, result is non-zero. Otherwise, result is zero.
`x contains y`	Boolean substring comparison. If the substring y is found in x, then result is non-zero, otherwise result is zero.
`x || y`	String concatenation. Result is a new string created by copying x then y to the new string.
`X ? y : z`	If x is true (non-zero) then y else z.

Examples

Some examples of valid query expressions follow. Each of these assumes that there are several variables; two strings called NAME and KIND, and numeric variables called AGE, RETIREMENT, and OFFSET.

- `where age < 30`
  Selects all records where age is less than 30. Note that the keyword where is permitted as an optional verb at the start of the expression; this keyword is optional.

- `name contains "Tom" and age > 30`
  The selects records where the name contains the substring "Tom" and the age field is greater than 30.

- `age < retirement / 2 + offset`
  This shows you can include expressions. This divides the value retirement by 2 and adds the variable offset. Records are selected where the field age is less than this calculated value.

- `( age + 30 ) / retirement > 0`
  This shows how parentheses are used to change the order of evaluation; the value 30 is added to value of field age, and the result divided by the field retirement. Records are selected if this result is greater than zero.

- `offset > ( kind contains "F" ) ? age : retirement`
  This statement compares the value of offset to either the value of age or the value of retirement. Which one is used is determined by whether the variable kind contains the string "F". The ?: operator set allows a subexpression to be conditional on the result of a test or value. A ?: subexpression takes the place of a single item; if the test value is itself a subexpression (as shown above) it must be enclosed in parenthesis.

- `(( kind contains "C" ) ? name : age ) > (( kind contains "C")? title : retirement )`
  This expression bases its test on the value of kind containing a "C" or not. If it does, then name is compared to title. If it does not contain a "C", then age is compared to retirement. This actually causes the expression to compare strings or numbers depending on the state of a variable in the record.

Using the Network Open Dialog to Access SAS Files across a Network

You can also open network files in the SAS System Viewer by entering one of these special file name formats in the *File name* field of the Network Open dialog.

To view a file that you can access using FTP, enter:

```
ftp://[username[:password]@]host[.domain.net][:port]/path
```

username	is your logon name for the host you want to access. This argument is optional; if you don't specify a *username,* the SAS System Viewer will prompt you for one.
password	is the password for your logon name. This argument is optional; if you don't specify a *password,* the SAS System Viewer will prompt you for one.
host	is the TCP/IP host that provides access to the file you want, and is acting as an FTP server
port	is the TCP/IP port number to connect to. This argument is optional; the SAS System Viewer will use the default port if you don't specify one.
path	is the complete path and file name of the SAS file you want to view

Examples

- ftp://norman.unx.sas.com/options.ssd01
  opens the UNIX data set `options.ssd01` residing on   orman.unx.sas.com after prompting for a valid user name and password.
- ftp://anonymous:guest@ftp.big.org//pub/sas/data/dataset.ssd01
  opens the UNIX data set /pub/sas/data/dataset.ssd01 residing on [ftp.big](ftp.big).org after logging in as anonymous.

To view a SAS file that you can access using HTTP (such as on the World Wide Web), enter:

```
http://host[.domain.net][:port]/path
```

host.domain.net	is the host, domain, and network name of the HTTP site you want to access. If the HTTP server requires a user name for access, the SAS System Viewer will prompt you for one.
port	is the TCP/IP port number to connect to. This argument is optional; the SAS System Viewer will use the default port if you don't specify one.
path	is the complete path and file name of the SAS file you want to view, relative to the HTTP access point.

Example

```
http://www.big.org/~JimP/options.ssd01
```

This would open the UNIX dataset `options.ssd01` residing in the `public_html` subdirectory (assuming that the HTTP server is configured to search the `public_html` subdirectory for content when accessed using a URL).

8 July 2003